

PATENT

## REMARKS

Claims 1, 21, and 41 have been amended, claims 8 and 42 have been cancelled, and claims 47-58 have been added. Claims 38-40 have been previously withdrawn in response to the Restriction Requirement mailed September 23, 2004. Therefore, claims 1-7, 9-37, 41, and 43-58 will be pending, after entry of this amendment. Applicants believe that the present application is in condition for allowance, which prompt and favorable action is respectfully requested.

**I. REJECTION UNDER 35 U.S.C. §103****A. Claims 1, 3-8, 11-14, 17-19, 27**

The Examiner rejected claims 1, 3-8, 11-14, 17-19, 21, 27 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,442,151 (H'mimy) in view of U.S. Patent No. 6,167,031 (Olofsson).

Claim 1 as amended, recites, amongst other things “coding and modulating data for all selected transmission channels in the group based on a particular common coding and modulation scheme selected for the group.” Olofsson discloses that “the present invention selects a modulation and channel coding combination on an RF link that provides the best user quality value.” (Col. 4, ll. 63-65). More specifically, in “selecting the combination of modulation and channel coding scheme on a downlink RF link, the mobile station 12 performs the steps of measuring link quality parameters and calculating mean values and variances and reporting the channel characteristic measures to the RBS 22,” that “then performs the link quality estimation function and decides whether a new combination of modulation and channel coding schemes on an RF link should be selected or not.” (Col. 12, ll. 6-16). As can be seen, Olofsson does not indicate that “all selected transmission channels in the group” may be coded and modulated “based on a particular common coding and modulation scheme selected for the group.” That is, there is no disclosure how to select “a particular common coding and modulation scheme for all selected channels” in a group. Therefore, for at least this reason claim 1 is allowable over the cited references.

In addition, Applicants respectfully submit that H'mimy teaches away from a scheme where “a particular common coding and modulation scheme for all selected channels” is utilized.

## PATENT

H'mimy discloses "preassigning a first transmission channel to the service, the transmission channel having an interference level less than a predetermined blocking threshold," then "the service is reassigned to a second channel based on the channel quality and interference level." (Col. 2, ll. 61-66; *see also* Col. 3, ll. 29-35; Col. 4, 42-50; Col. 7, ll. 34-48; and Col. 8, ll. 49-65). The reassignment is a function of interference level of the first and second channels, which indicates that there is a difference in the channel conditions. Such changes, would implicate a selection of a different coding and modulation scheme, *see e.g.* Olofsson at Col. 12, ll. 6-16 which states that modulation and coding schemes should be changed based upon channel conditions. Therefore, for at least this reason, H'mimy teaches away from "coding and modulating data for all selected transmission channels in the group based on a particular common coding and modulation scheme selected for the group," as recited in claim 1.

Claims 3-8, 11-14, and 17-19 depend from claim 1, and, are therefore allowable for at least the same reasons as stated with respect to claim 1.

Moreover, claim 3 recites that "the multi-channel communication system is an orthogonal frequency division modulation (OFDM) system" and that "the plurality of available transmission channels correspond to a plurality of frequency subchannels." In the Office Action at page 4, it is stated that "Olofsson (i.e. GSM or TDMA) has no restriction of the type of modulation scheme used." Applicants state that as implicit in the Office Action, neither H'mimy nor Olofsson disclose or imply that OFDM may be used with the systems, methods, and apparatuses disclosed therein. Therefore, as required by MPEP 2143.03 each and every claim limitation is not taught and suggested and the rejection with respect to claim 3 is respectfully traversed. Claim 3 is allowable independently for, at least, this reason.

Claims 4-6 are rejected because the "claimed subject matter are rather application dependent and would have been obvious to one skilled in the art." As stated with respect to claim 3, that as implicit in the Office Action, neither H'mimy nor Olofsson disclose or imply that OFDM may be used with the systems, methods, and apparatuses disclosed therein. Therefore, as required by MPEP 2143.03 each and every claim limitation is not taught and suggested and the rejection with respect to claims 4-6 is respectfully traversed. Claims 4-6 are allowable independently for, at least, this reason.

**PATENT**

Additionally, Applicants submit that, even if, the claimed features are within the capabilities of one or ordinary skill in the art, this is not enough to establish *Prima Facie* obviousness. MPEP 2143.01. Specifically, while not admitting that OFDM or MIMO systems are within the prior art for the instant Applications, there is no teaching Oloffson or H'mimy that they may, of how they may, be applied to an OFDM system, where frequency subchannels for a given user may have different channel characteristics, or a MIMO system, where different spatial channels for a given user may have different channel characteristics. Therefore, for at least this reason independently, claims 3-6 are allowable over Oloffson and H'mimy, independently or by their combination.

Claim 21, as amended, recites, amongst other things, "coding data for all selected transmission channels based on a particular common coding scheme to provide coded data selected for the transmission channels that were selected." As discussed with respect to claim 1, there is no disclosure, in Oloffson, how to select a "common coding scheme to provide coded data selected for the transmission channels" in a group. Therefore, for at least this reason, claim 21 is allowable over the cited references.

Also, as discussed with respect to claim 1, H'mimy teaches away from a scheme where "a particular common coding scheme to provide coded data selected for the [group of] transmission channels" is utilized. Therefore, for at least this reason, claim 21 is allowable over H'mimy and Oloffson.

Claim 27 depends from claim 21, and, is therefore allowable for at least the same reasons as stated with respect to claim 21.

**II. REJECTION UNDER OBVIOUSNESS-TYPE DOUBLE PATENTING****A. Claims 1, 3-5, 7, 8, 21, 28, 41**

Claims 1, 3-5, 7, 8, 21, 28, 41 have been rejected under the judicially created doctrine of double patenting over various claims of U.S. Patent No. 6,751,187. Applicants, while not acquiescing to the substance of the rejections, are submitting a Terminal Disclaimer with respect to U.S. Patent No. 6,751,187. As such, the rejection under the judicially created doctrine of double patenting is overcome.

PATENT

**B. Claims 2, 6, 9-20, 29-37, 41-46**

Claims 2, 6, 9-20, 29-37, 41-46 have been rejected under the judicially created doctrine of double patenting over various claims of U.S. Patent No. 6,751,187. Applicants, while not acquiescing to the substance of the rejections, are submitting a Terminal Disclaimer with respect to U.S. Patent No. 6,751,187. As such, the rejection under the judicially created doctrine of double patenting is overcome.

**IV. NEW CLAIMS 47-58**

New independent claim 47 recites, amongst other things, "a common modulation and coding scheme for the group of frequency subchannels." As discussed with respect to claims 1 and 3, neither Oloffson nor H'mimy include any disclosure or teaching regarding OFDM systems having a plurality of frequency subchannels or selecting a common modulation and coding scheme for the group. Therefore, for at least this reason, claim 47 is allowable over the combination of Oloffson and H'mimy.

Claims 48 and 49 depend from claim 47 and are allowable, for at least, the same reason as discussed with respect to claim 47.

Claim 50 contains recitations similar to claim 47 and is allowable, for at least, the same reason as discussed with respect to claim 47.

Claims 51 and 52 depend from claim 50 and are allowable, for at least, the same reason as discussed with respect to claim 50.

New independent claim 53 recites, amongst other things, "selecting a common modulation and coding scheme for the group of spatial channels." As discussed with respect to claims 1 and 3, neither Oloffson nor H'mimy include any disclosure or teaching regarding MIMO systems having a plurality of spatial channels or selecting a common modulation and coding scheme for the group. Therefore, for at least this reason, claim 53 is allowable over the combination of Oloffson and H'mimy.

Claims 54 and 55 depend from claim 53 and are allowable, for at least, the same reason as discussed with respect to claim 53.

Claim 56 contains recitations similar to claim 53 and is allowable, for at least, the same reason as discussed with respect to claim 53.

**PATENT**

Claims 57 and 58 depend from claim 56 and are allowable, for at least, the same reason as discussed with respect to claim 56.

**CONCLUSION**

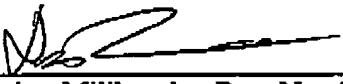
In light of the amendments contained herein, Applicants submit that the application is in condition for allowance, for which early action is requested. If the Examiner would like to further discuss this matter or any issue, he is invited to contact the undersigned at (858) 845-0130.

Please charge any fees or overpayments that may be due with this response to Deposit Account No. 17-0026.

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Respectfully submitted,

Dated: November 1, 2005

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